

Patent Claims

1. A radial fan (1) with a housing (2) and a fan impeller (3) disposed therein, an air inlet (4) and an air outlet (5), a pressure space (6) being formed between the latter,
5 characterised in that in front of the air inlet (4) a laminar element (7) is disposed which, in a bypass (8) formed therein, comprises a sensor (9) for recording at least one parameter of the medium flowing through the air inlet (4).
2. The radial fan according to Claim 1, characterised in that the laminar element (7)
10 consists of an arrangement of flow channels (10) which are surrounded by an outer cylinder (11).
3. The radial fan according to Claim 1 or 2, characterised in that the flow channels (10) are formed in one element (12) which is inserted in the outer cylinder (11), the bypass (8) being formed between the two components.
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4. The radial fan according to any of Claims 1 to 3, characterised in that the bypass (8) has an access gap (13) and a discharge gap (14) which are each formed between the element (12) and the outer cylinder (11).
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5. The radial fan according to Claim 4, characterised in that the access gap (13) and the discharge gap (14) are in flow communication with the inflow opening (4') of the laminar element (7) and the outflow region (29) of the same.
- 25 6. The radial fan according to either of Claims 3 or 4, characterised in that behind the access gap (13) the bypass (8) has a settling chamber (15') for settling the air flow.
7. The radial fan according to either of Claims 5 or 6, characterised in that the sensor (9) is disposed in/on a sensor channel (16) which is in flow communication with a respective settling chamber (15', 15'') by means of an inflow and an outflow opening (17; 18).
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8. The radial fan according to any of Claims 1 to 7, characterised in that an inflow channel (19) for a further medium is formed between the laminar element (7) and the air inlet (4) of the housing (2).
- 5 9. The radial fan according to Claim 8, characterised in that the further medium flows in, evenly distributed over the whole of the air inlet (4).
10. The radial fan according to any of Claims 1 to 9, characterised in that the further medium is supplied via a feed element (20).
- 10 11. The radial fan according to Claim 10, characterised in that the feed element (20) has a sensor (21) for the further medium.
- 15 12. The radial fan according to Claim 11, characterised in that the sensor (21) is disposed in a bypass (22) which has a settling chamber (23).
13. The radial fan according to Claim 12, characterised in that the sensor (21) is disposed in a sensor channel (35) which is in flow communication with the settling chamber (23) by means of an inflow and an outflow (24, 25).